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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN: 0648-XC969

Draft Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammals –

Acoustic Threshold Levels for Onset of Permanent and Temporary Threshold Shifts

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice; request for comments.

SUMMARY: The National Marine Fisheries Service (NMFS) on behalf of NMFS and the National Ocean Service (referred collectively here as the National Oceanic and Atmospheric Administration (NOAA)), announces the availability of draft guidance for assessing the effects of anthropogenic sound on marine mammal species under NOAA's jurisdiction. The guidance provides updated received levels, or thresholds, above which individual marine mammals are predicted to experience changes in their hearing sensitivity (either temporary or permanent) for all underwater anthropogenic sound sources. NOAA solicits public comment on the draft guidance.

DATES: Comments must be received by [insert date 30 days after date of publication in the FEDERAL REGISTER].

ADDRESSES: The draft guidance is available in electronic form via the Internet at <http://www.nmfs.noaa.gov/pr/acoustics/>.

You may submit comments, identified by [NOAA-NMFS-2013-0177], by any of the following methods:

Electronic Submissions: Submit all electronic public comments via the Federal eRulemaking Portal <http://www.regulations.gov>.

Mail: Send comments to: Chief, Marine Mammal and Sea Turtle Conservation Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910-3226, Attn: Acoustic Guidance.

Instructions: All comments received are a part of the public record and will generally be posted to <http://www.regulations.gov> without change. All Personal Identifying Information (for example, name, address, etc.) voluntarily submitted by the commenter may be publicly accessible. Do not submit Confidential Business Information or otherwise sensitive or protected information.

NMFS will accept anonymous comments (enter N/A in the required fields, if you wish to remain anonymous). You may submit attachments to electronic comments in Microsoft Word, Excel, WordPerfect, or Adobe PDF file formats only.

NMFS will hold a public meeting and webinar to inform interested parties and solicit comments on the draft guidance document. The meeting will be held on January 14, 2014, from 2pm to 5pm (EST) at the NOAA Silver Spring Metro Center Complex, NOAA Science Center, 1301 East-West Highway, Silver Spring, MD 20910. This meeting is accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to Amy Scholik-Schlomer, (301) 427-8449 (voice), (301) 713-0376 (fax), or Amy.Scholik@noaa.gov at least five days before the scheduled meeting date. Information on

how to register for the online webinar will be posted on via the Internet at

<http://www.nmfs.noaa.gov/pr/acoustics/> after January 1, 2014.

FOR FURTHER INFORMATION CONTACT: Amy Scholik-Schlomer, Office of Protected Resources, 301-427-8449, Amy.Scholik@noaa.gov;

SUPPLEMENTARY INFORMATION:

The National Marine Fisheries Service and the National Ocean Service (referred collectively here as the National Oceanic and Atmospheric Administration (NOAA)), have developed draft guidance for assessing the effects of anthropogenic sound on marine mammal species under NOAA's jurisdiction. Specifically, the guidance identifies the received levels, or thresholds, above which individual marine mammals are predicted to experience changes in their hearing sensitivity (either temporary or permanent) for all underwater anthropogenic sound sources. This is the first time NOAA has presented this information in a single, comprehensive document. This guidance is intended to be used by NOAA analysts and managers and other relevant user groups and stakeholders, including other federal agencies, when seeking to determine whether and how their activities are expected to result in particular types of impacts to marine mammals via acoustic exposure. This document outlines NOAA's updated acoustic threshold levels and describes in detail how the thresholds were developed and how they will be updated in the future.

NOAA has compiled, interpreted, and synthesized the best available science to produce updated acoustic threshold levels for the onset of both temporary (TTS) and permanent hearing threshold shifts (PTS). These thresholds replace those currently in use by NOAA. Updates include a protocol for estimating PTS and TTS onset levels for impulsive (e.g., airguns, impact

pile drivers) and non-impulsive (e.g., sonar, vibratory pile drivers) sound sources, the formation of marine mammal functional hearing groups (low-, mid-, and high-frequency cetaceans and otariid and phocid pinnipeds), and the incorporation of marine mammal auditory weighting functions into the calculation of thresholds. These acoustic threshold levels are presented using the dual metrics of cumulative sound exposure level and peak sound pressure level. This document addresses how to combine multiple datasets, as well as how to determine appropriate surrogates when data are not available. While the updated acoustic thresholds are more complex than those previously used by NOAA, they accurately reflect the current state of scientific knowledge regarding the characteristics of sound that have the potential to impact marine mammal hearing sensitivity. Given the specific nature of these updates, it is not possible to compare directly the updated acoustic threshold levels presented in this document with the thresholds previously used by NOAA.

Although NOAA has updated the acoustic threshold levels from those previously used, and these changes may necessitate new methodologies for calculating impacts, the application of the thresholds in the regulatory context under applicable statutes (Marine Mammal Protection Act, Endangered Species Act, and National Marine Sanctuaries Act) remains consistent with past NOAA practice. It is important to note that these updated acoustic threshold levels do not represent the entirety of an impact assessment, but rather serve as one tool (in addition to behavioral impact thresholds, auditory masking assessments, evaluations to help understand the ultimate effects of any particular type of impact on an individual's fitness, population assessments, etc.), to help evaluate the effects of a proposed action on marine mammals and make findings required by our various statutes.

The document is classified as a Highly Influential Scientific Assessment by the Office of Management and Budget. As such, independent peer review is required prior to broad public dissemination by the Federal Government. NOAA conducted a peer review of the updated acoustic threshold levels. Details of the peer review can be found within this document, and at the following website: <http://www.nmfs.noaa.gov/pr/acoustics/>.

A summary of the updated acoustic threshold levels can be found in the main body of the document and additional details are provided in the appendices. Section I provides an introduction to the document and a description of how NOAA addressed uncertainty and data limitations. NOAA's updated acoustic threshold levels for onset of PTS and TTS for marine mammals exposed to underwater sound are presented in Section II. Section III describes how acoustic threshold levels are interpreted under NOAA's statutes. NOAA's plan for periodically updating acoustic threshold levels is presented in Section IV. More details on the marine mammal auditory weighting functions, the development of acoustic threshold levels, the peer review process, and a glossary of acoustic terms can be found in the appendices.

NOAA particularly encourages the public to identify any additional datasets for inclusion in the assessment, and to comment on the appropriateness of the proposed accumulation period

for the cumulative sound exposure metric and the proposed low-frequency auditory weighting function for which direct measurements of hearing sensitivity are not available.

Dated: December 19, 2013.

Alan D. Risenhoover

Director, Office of Sustainable Fisheries,
performing the functions and duties of the Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

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